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(54) METHOD FOR PROVIDING INFORMATION ON TYPE OF IMAGE APPARATUS AND IMAGE APPARATUS ADOPTING THE SAME

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(57) **ABSTRACT**

A method for providing information on types of image apparatus being used and an image apparatus adopting the same are provided. The method for providing information on the types of image apparatus being used includes transmitting a request message to external devices inquiring whether or not the external device which is connected using a high definition multimedia interface consumer electronics control (HDMI CEC) standard is a device of a particular type, and receiving from the external devices a response message answering whether or not the external device is a device of the particular type, in response to the request message. Accordingly, information on the type of connected external devices is obtained, and a list of external devices or a menu of external devices is provided according to the obtained type to the user so that the user can use the image apparatus more conveniently.

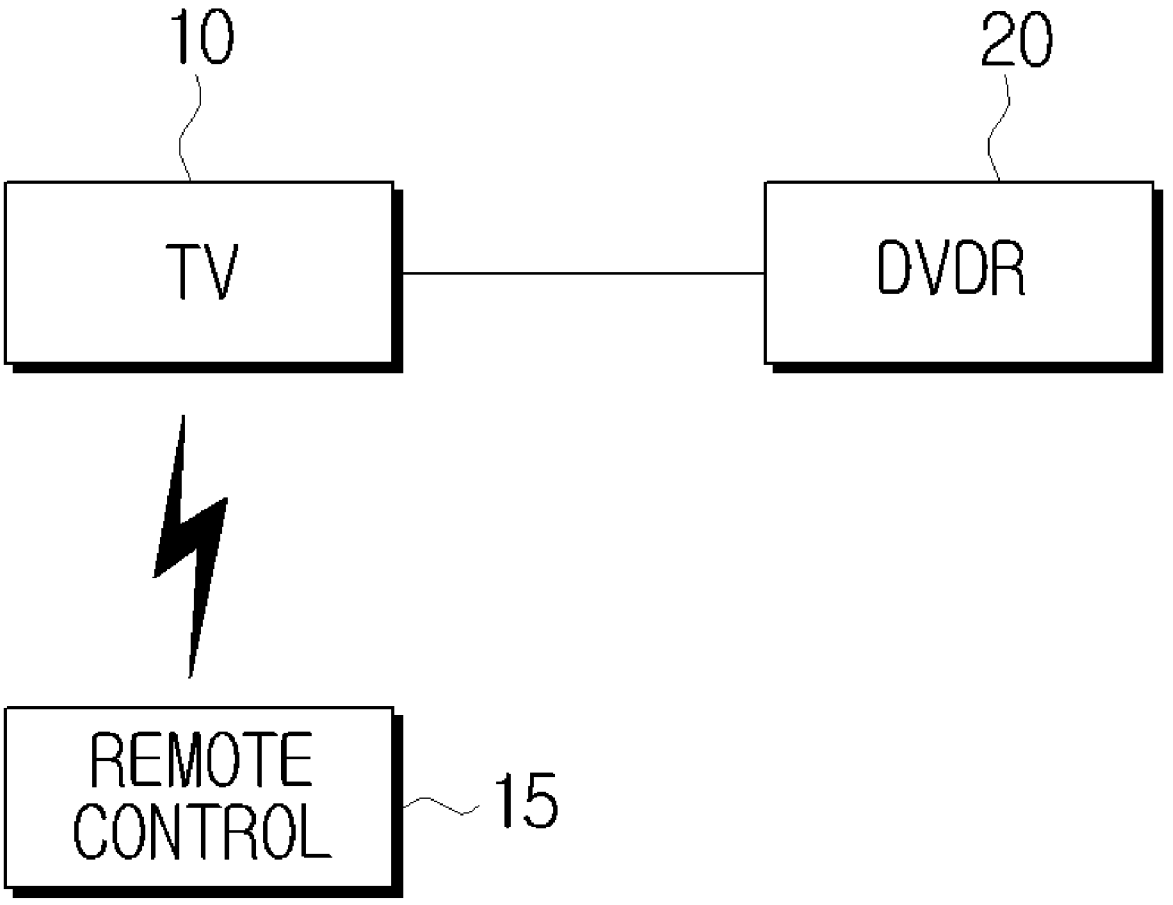


FIG. 1

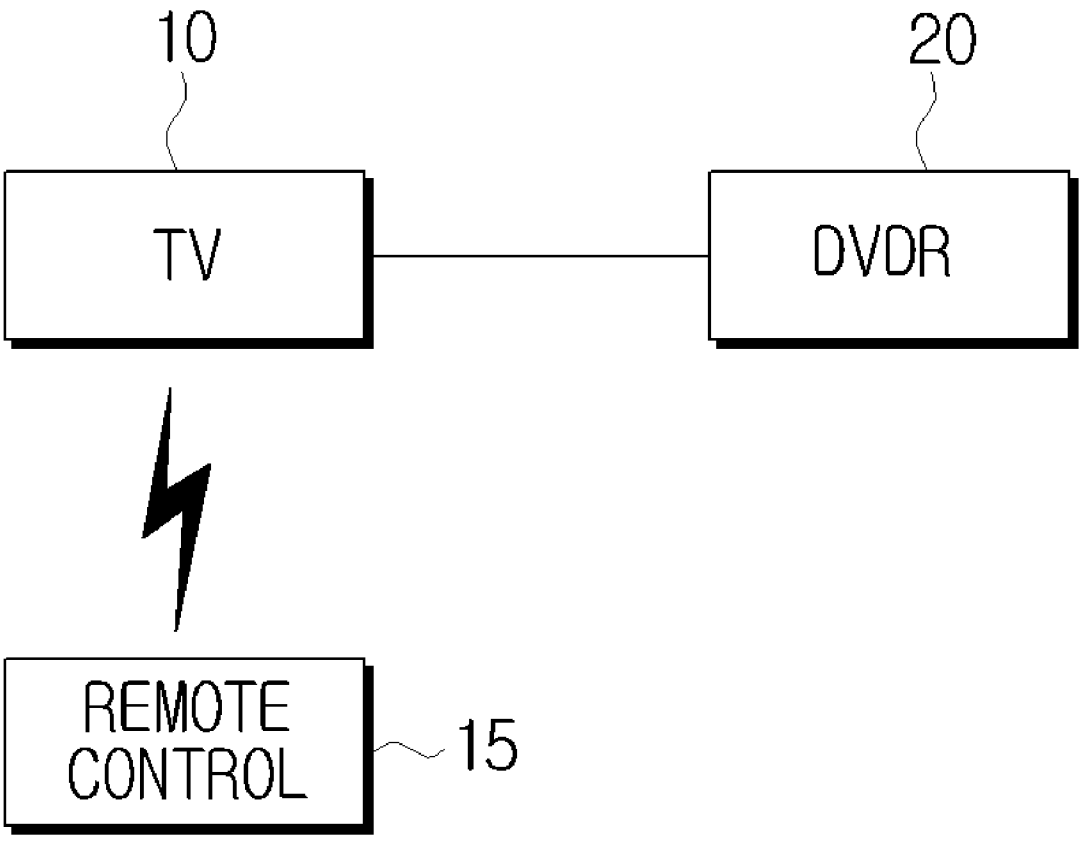


FIG. 2

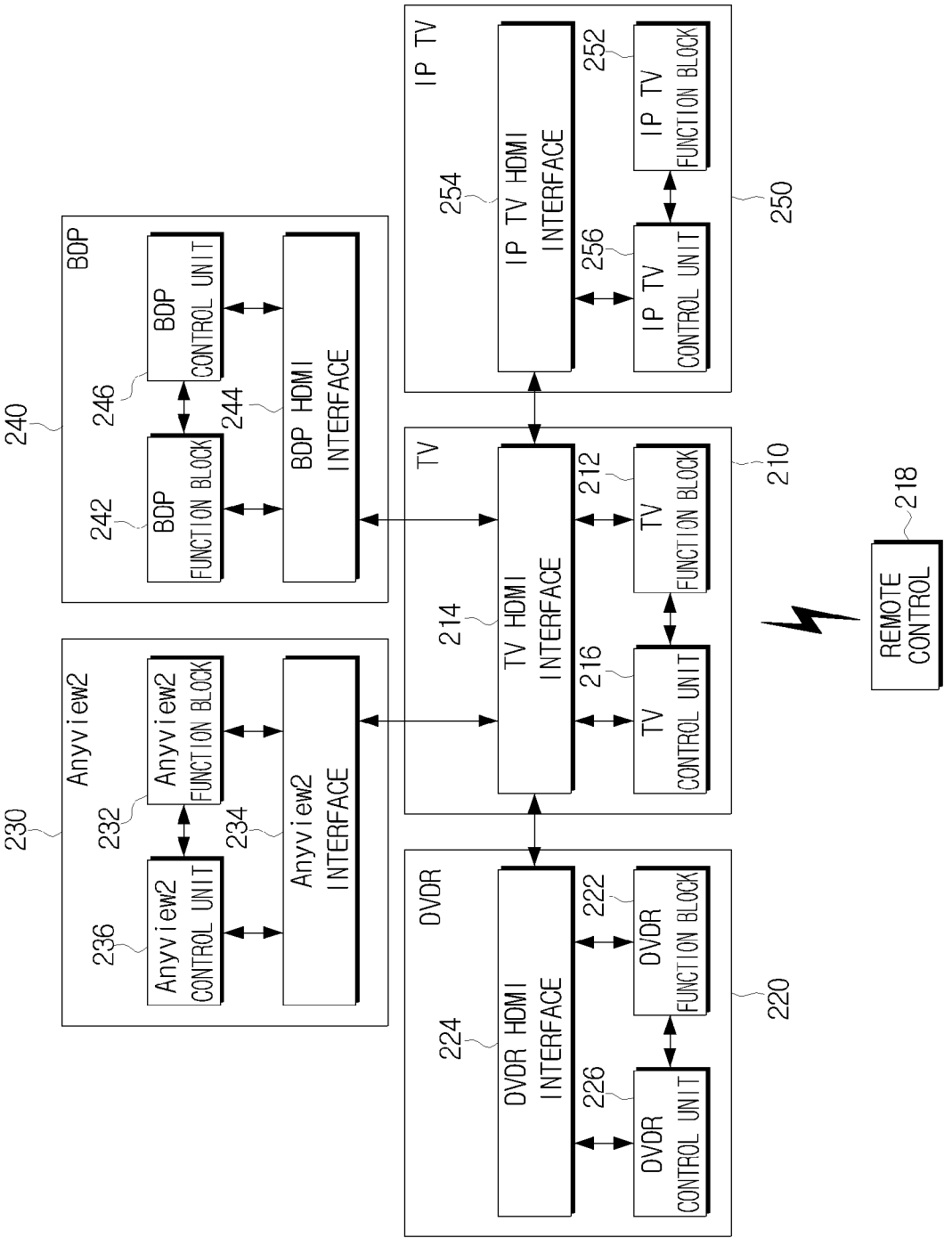

IP TV
254
IP TV HDMI INTERFACE
252
IP TV FUNCTION BLOCK
256
IP TV CONTROL UNIT
250
BDP
240
246
BDP CONTROL UNIT
244
BDP HDMI INTERFACE
242
BDP FUNCTION BLOCK
TV
214
TV HDMI INTERFACE
212
TV FUNCTION BLOCK
216
TV CONTROL UNIT
210
Anyview2
230
232
Anyview2 FUNCTION BLOCK
234
Anyview2 INTERFACE
236
Anyview2 CONTROL UNIT
DVDR
224
DVDR HDMI INTERFACE
222
DVDR FUNCTION BLOCK
226
DVDR CONTROL UNIT
220
REMOTE CONTROL
218

FIG. 3

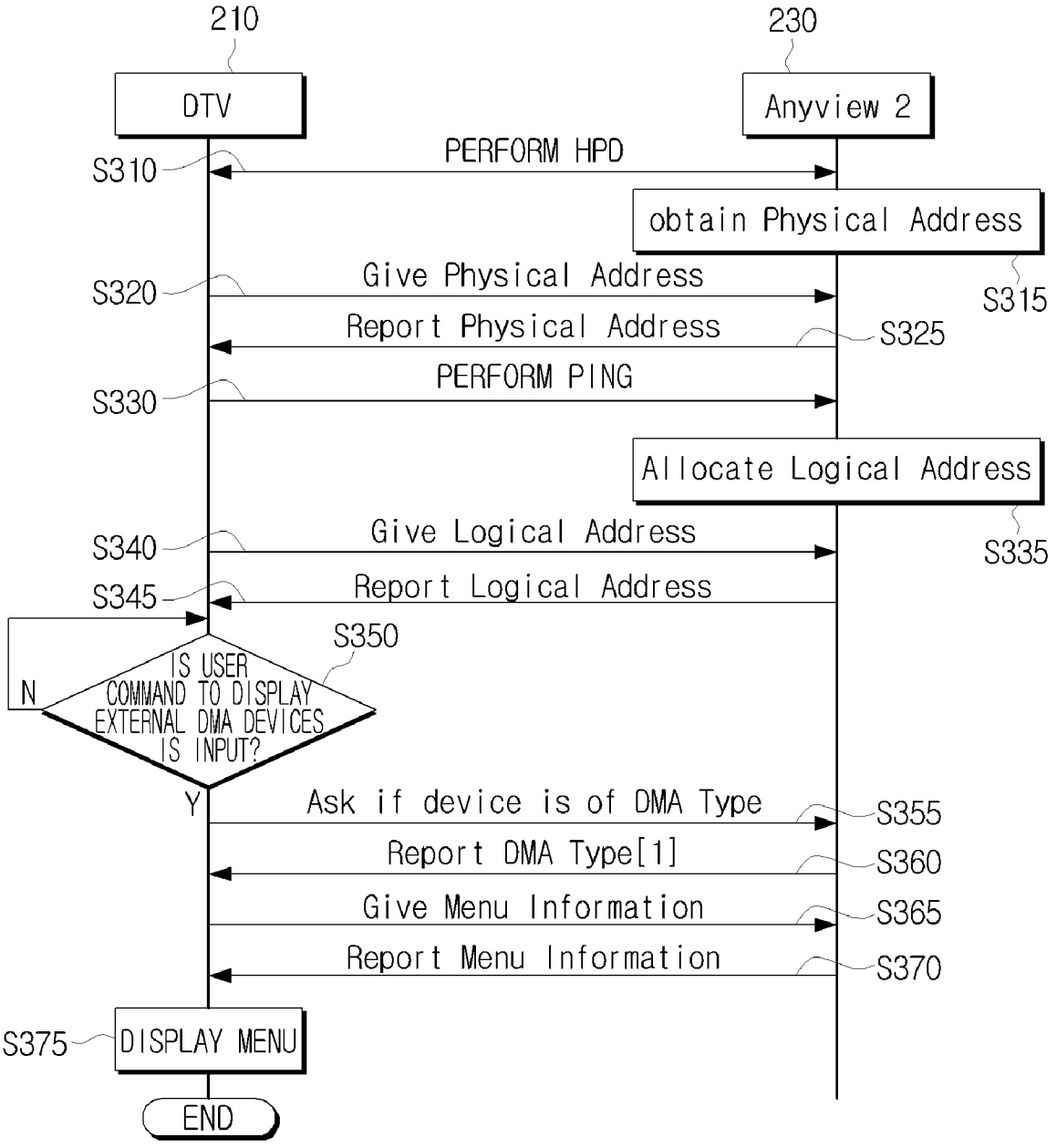

210
230
DTV
Anyview 2
S310
PERFORM HPD
obtain Physical Address
S315
S320
Give Physical Address
Report Physical Address
S325
S330
PERFORM PING
Allocate Logical Address
S335
S340
Give Logical Address
S345
Report Logical Address
S350
IS USER COMMAND TO DISPLAY EXTERNAL DMA DEVICES IS INPUT?
N
Y
Ask if device is of DMA Type
S355
Report DMA Type[1]
S360
Give Menu Information
S365
Report Menu Information
S370
S375
DISPLAY MENU
END

FIG. 4A

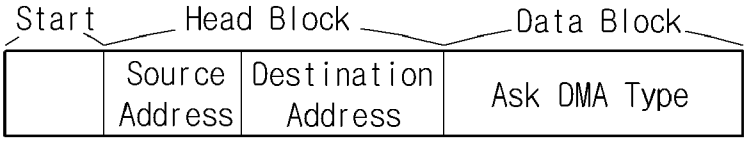


FIG. 4B

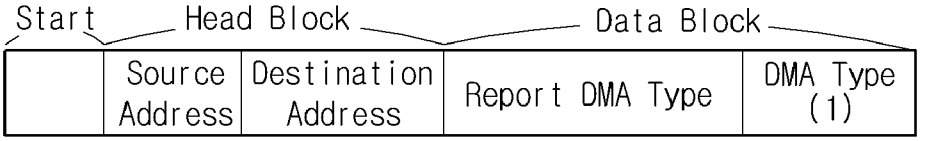


FIG. 4C

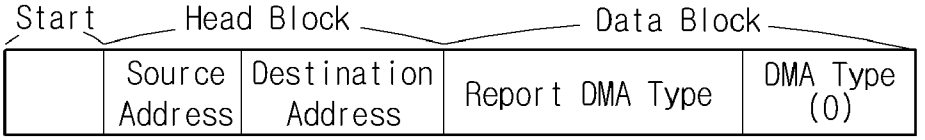


FIG. 4D

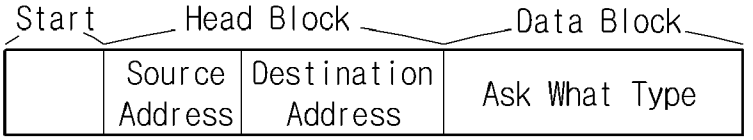


FIG. 4E

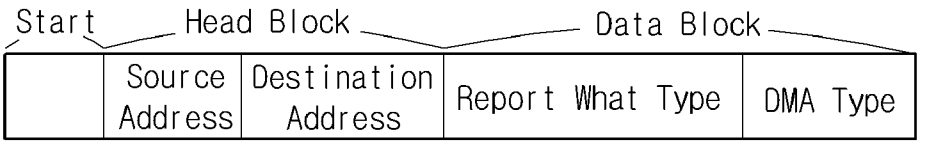


FIG. 5

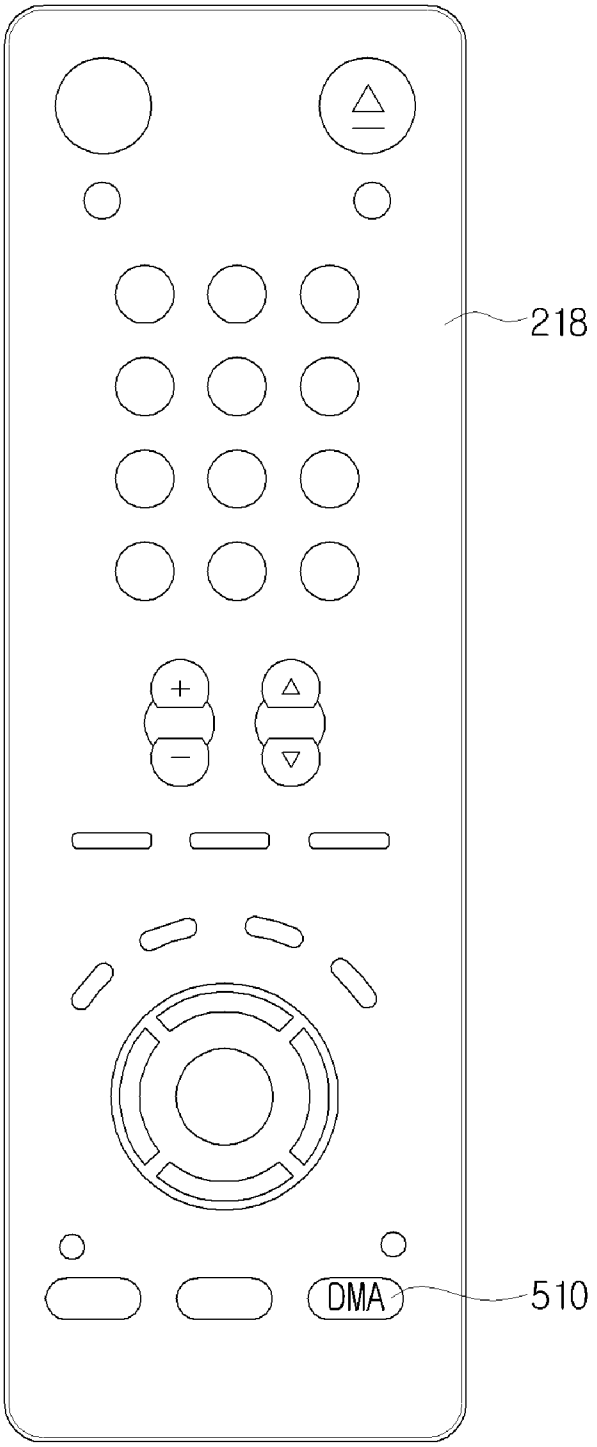


FIG. 6A

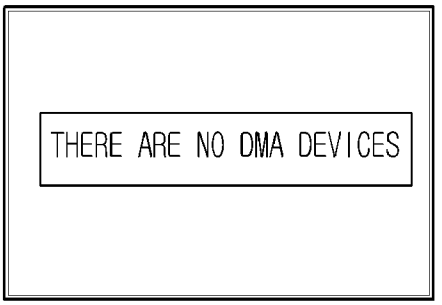


FIG. 6B

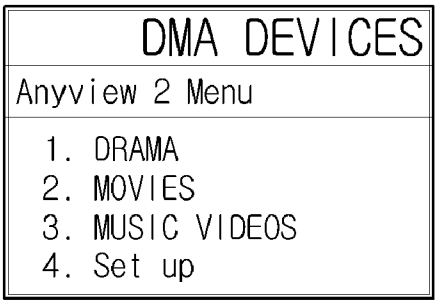
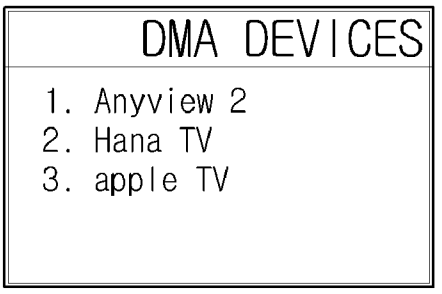


FIG. 6C



METHOD FOR PROVIDING INFORMATION ON TYPE OF IMAGE APPARATUS AND IMAGE APPARATUS ADOPTING THE SAME

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. §119 from Korean Patent Application No. 10-2007-0127118, filed on Dec. 7, 2007, in the Korean Intellectual Property Office, the disclosure of which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] Apparatuses and methods consistent with the present invention relate to providing an image apparatus and a method for controlling the same, and more particularly, to providing a method for providing information on the type of image apparatus being used and an image apparatus adopting the same.

[0004] 2. Description of the Related Art

[0005] FIG. **1** shows an image providing system connected using a high definition multimedia interface consumer electronics control (HDMI CEC) standard. In the image providing system, a television (TV) **10** is connected to a digital versatile disc recorder (DVDR) **20** according to an HDMI CEC standard. Control signals as well as image signals are transmitted and received between the TV **10** and the DVDR **20**.

[0006] Accordingly, the TV **10** controls the operation of the DVDR **20** according to user commands transmitted using a remote control **15**, so the user can enjoy services provided by the DVDR **20**. In order to use services of the DVDR **20**, the user must search through menus of the DVDR **20** and select specific services from the menus.

[0007] In order to use a particular service as described above, the user must know what type of an external device provides the particular service, causing inconvenience to the user. If the user does not know the type of external device providing the particular service, the user must search for the functions of the external devices connected to the TV **10** and find the particular external device.

[0008] As an increasingly diverse range of external devices are connected to a TV for user convenience, it has become difficult for the user to use the image providing system, resulting in reduced utilization of the image providing system.

[0009] Therefore, there is a need for methods for the user to use the image providing system more easily and conveniently.

SUMMARY OF THE INVENTION

[0010] Exemplary embodiments of the present invention address at least the above problems and/or disadvantages and other disadvantages not described above. Also, the present invention is not required to overcome the disadvantages described above, and an exemplary embodiment of the present invention may not overcome any of the problems described above.

[0011] An aspect of the present invention provides a method for acquiring information on the type of external device and an image apparatus adopting the same.

[0012] Another aspect of the present invention provides a method for controlling an image apparatus which provides a list of external devices according to the acquired information on the types of external device and an image apparatus adopting the same, so that the user can manipulate the external devices more conveniently.

[0013] According to an exemplary aspect of the present invention, there is provided a method for providing information on the type of image apparatus connected, the method including transmitting to external devices a request message inquiring whether or not the external device which is connected using a high definition multimedia interface consumer electronics control (HDMI CEC) standard is a device of a particular type, and receiving from the external devices a response message answering whether or not the external device is a device of the particular type, in response to the request message.

[0014] The request message may include data inquiring whether or not the external device is a device of the particular type, and the response message may include at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

[0015] The device of the particular type may be a digital media adapter (DMA) device.

[0016] The method may further include determining whether or not a user command to display external devices of the particular type is input, and displaying external devices of the particular type from among external devices connected according to the HDMI CEC standard based on the received response message if a user command to display external devices of the particular type is input.

[0017] The method may further include determining a number of external devices of the particular type.

[0018] The method may further include displaying a menu of the external device of the particular type if the number of external devices of the particular type is one.

[0019] The method may further include displaying a list of the external devices of the particular type if the number of external devices of the particular type is more than one.

[0020] The method may further include displaying information indicating there are no external devices of the particular type if the number of external devices of the particular type is zero.

[0021] According to another exemplary aspect of the present invention, there is provided a method for an image apparatus providing information on the type of the image apparatus to an external device which is connected according to the HDMI CEC standard, the method including receiving from the external device a request message inquiring whether or not the image apparatus is a device of a particular type, and transmitting to the external devices a response message answering whether or not the image apparatus is a device of the particular type, in response to the request message.

[0022] The request message may include data inquiring whether or not the external device is a device of the particular type, and the response message comprises at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

[0023] According to another exemplary aspect of the present invention, there is provided an image apparatus including an interface which performs data communication with external devices which are connected according to the HDMI CEC standard, and a control unit which generates a request message inquiring whether or not the external device is a device of a particular type, transmits the request message to the external devices through the interface, and receives

from the external devices a response message answering whether or not the external device is a device of the particular type, in response to the request message.

[0024] The request message may include data inquiring whether or not the external device is a device of the particular type, and the response message may include at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

[0025] The device of the particular type may be a digital media adapter (DMA) device.

[0026] The image apparatus may further include a display, wherein the control unit displays external devices of the particular type on the display based on the received response message if a user command to display the external devices of the particular type is input.

[0027] The control unit may determine a number of external devices of the particular type.

[0028] The control unit may generate and display a menu of the external device of the particular type on the display if the number of external devices of the particular type is one.

[0029] The control unit may generate and display a list of the external devices of the particular type on the display if the number of external devices of the particular type is more than one.

[0030] According to another exemplary aspect of the present invention, there is provided an image apparatus including an interface which performs data communication with an external device which is connected according to the HDMI CEC standard, and a control unit which receives a request message from the external device inquiring whether or not the image apparatus is a device of a particular type, and generates and transmits to the external devices a response message answering whether or not the image apparatus is a device of the particular type, in response to the request message.

[0031] The request message may include data inquiring whether or not the external device is a device of the particular type, and the response message may include at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

BRIEF DESCRIPTION OF THE DRAWINGS

[0032] The above and/or other aspects of the present invention will be more apparent by describing certain exemplary embodiments of the present invention with reference to the accompanying drawings, in which:

[0033] FIG. **1** shows an image providing system connected using a HDMI CEC standard;

[0034] FIG. **2** is a block diagram of an image providing system to which the present invention can be applied;

[0035] FIG. **3** is a drawing describing a method for providing a menu of an external device of a particular type according to an exemplary embodiment of the present invention;

[0036] FIGS. **4**A to **4**E show the structure of messages regarding the types of image apparatus being used according to an exemplary embodiment of the present invention; and

[0037] FIG. **5** shows a remote control of a TV according to an exemplary embodiment of the present invention; and

[0038] FIGS. **6**A to **6**C show menus to be displayed on a display when a DMA key is selected according to an exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS OF THE INVENTION

[0039] Certain exemplary embodiments of the present invention will now be described in greater detail with reference to the accompanying drawings.

[0040] In the following description, like drawing reference numerals are used for like elements, even in different drawings. The matters defined in the description, such as detailed construction and elements, are provided to assist in a comprehensive understanding of the invention. However, the present invention can be practiced without those specifically defined matters. Also, well-known functions or constructions are not described in detail since they would obscure the invention with unnecessary detail.

[0041] FIG. **2** is a block diagram of an image providing system to which the present invention can be applied. In the image providing system, a television (TV) **210** is individually connected to a digital versatile disc recorder (DVDR) **220**, an Anyview**2** device **230** which is a kind of multimedia device developed by Samsung, a Blu-ray disc player (BDP) **240**, and an Internet protocol television (IPTV) **250** using a HDMI CEC standard.

[0042] As shown in FIG. **2**, the TV **210** includes a TV function block **212**, a TV HDMI interface **214**, a TV control unit **216**, and a remote control **218**, and receives input of user commands using the remote control **218**.

[0043] The TV function block **212** performs original functions of the TV **210**. In more detail, the TV function block **212** performs processing of broadcast signals which are received from a broadcast stations wiredly or wirelessly, such as decoding and scaling, and displays the processed signals on a display (not shown), so the user can view the broadcast. In addition, the TV function block **212** display on the display images received from external devices, for example, the DVDR **220**, the Anyview**2** device **230**, the BDP **240**, and the IPTV **250**, through the TV HDMI interface **214**.

[0044] Furthermore, the TV function block **212** provides the user with a user interface (UT) means by displaying a list of external devices on the display. Menus displayed on the display by the TV function block **212** include menus provided by the TV **210** and menus provided by the external devices connected to the TV **210**.

[0045] The TV HDMI interface **214** is connected to external devices according to the HDMI CEC standard, and enables transmission and reception of image signals and messages between the TV **210** and the external devices.

[0046] The TV control unit **216** controls the operation of the TV function block **212** according to user commands received using the remote control **218**. The TV control unit **216** also controls the operation of an external device by transmitting control commands to the external device through the TV HDMI interface **214**.

[0047] In particular, if a command to display external devices of a particular type is input by the user, the TV control unit **216** generates a type information request message inquiring whether or not an external device is of a particular type, and transmits the generated type information request message to the external device connected to the TV **210**. If response messages from the connected external devices are received,

the TV control unit **216** generates a list of external devices of the particular type based on the response messages.

[0048] In addition, if a user command to execute a particular service is input, the TV control unit **216** generates and transmits to an external device providing the particular service a service execution request message, and operates the TV HDMI interface **214** to transmit the generated service execution request message to the external device providing the particular service.

[0049] As shown in FIG. **2**, the DVDR **220** includes a DVDR function block **222**, a DVDR HDMI interface **224**, and a DVDR control unit **226**.

[0050] The DVDR function block **222** performs original functions of the DVDR **220**. In more detail, the DVDR function block **222** records broadcast signals, which input from the TV **210** through the DVDR HDMI interface **224**, on a mounted DVD, or reads image signals recorded on the mounted DVD and transmits the read image signals to the TV **210** through the DVDR HDMI interface **224**.

[0051] The DVDR HDMI interface **224** is connected to the TV **210** according to the HDMI CEC standard, and enables transmission and reception of image signals and messages between the TV **210** and the DVDR **220**.

[0052] The DVDR control unit **226** controls the operation of the DVD function block **222** according to a control command of the TV control unit **216** received through the DVDR HDMI interface **224**.

[0053] In addition, if a type information request message inquiring whether or not the DVDR **220** is a device of a particular type is received from the TV **210**, the DVDR control unit **226** identifies whether or not the DVDR **220** is a device of the particular type, and generates and transmits a response message to the TV **210**.

[0054] In the present invention, the external devices connected to the TV **210** according to the HDMI CEC standard are referred to as CEC devices. Among CEC devices, some devices are defined as digital media adapter (DMA) devices by the manufacturer. The DMA devices are connected to an external display to show moving images, music, and image files, and enable the user to view the TV **210** in foreign countries through the Internet.

[0055] Accordingly, CEC devices are divided into DMA devices and non-DMA devices. In this exemplary embodiment, the Anyview**2** device **230** and the IPTV **250** are DMA devices, and the DVDR **220** and the BDP **240** are non-DMA devices.

[0056] Therefore, if the DVDR control unit **226** receives a request message inquiring whether or not the DVDR **220** is a DMA device, the DVDR control unit **226** generates and transmits to the TV **210** a response message indicating that the DVDR **220** is not a DMA device.

[0057] The Anyview**2** device **230** includes an Anyview**2** function block **232**, an Anyview**2** HDMI interface **234**, and an Anyview**2** control unit **236**.

[0058] The Anyview**2** function block **232** performs original functions of the Anyview**2** device **230**. The Anyview**2** HDMI interface **234** is connected to the TV **210** according to the HDMI CEC standard, and enables transmission and reception of audio/video data and messages between the TV **210** and the Anyview**2** device **230**. The Anyview**2** control unit **236** controls the operation of the Anyview**2** function block **232** according to a control command of the TV control unit **216** received through the Anyview**2** HDMI interface **234**. As described above, the Anyview**2** device **230** is a DMA device.

[0059] The BDP **240** includes a BDP function block **242**, a BDP HDMI interface **244**, and a BDP control unit **246**. The BDP function block **242** performs original functions of the BDP **240**. The BDP HDMI interface **244** enables transmission and reception of data and messages between the TV **210** and the BDP **240**. The BDP control unit **246** controls the operation of the BDP function block **242** according to a control command of the TV control unit **216** received through the BDP HDMI interface **244**. The BDP **240** is a non-DMA device.

[0060] The IPTV **250** includes an IPTV function block **252**, an IPTV HDMI interface **254**, and an IPTV control unit **256**. The IPTV function block **252** performs original functions of the IPTV **250**. The IPTV HDMI interface **254** enables transmission and reception of data and messages between the TV **210** and the IPTV **250**. The IPTV control unit **256** controls the operation of the IPTV function block **252** according to a control command of the TV control unit **216** received through the IPTV HDMI interface **254**. The IPTV **250** is a DMA device.

[0061] Hereinafter, the process of the TV **210** acquiring information regarding whether or not an external device is a device of a particular type from the external device and displaying a menu of the external device of the particular type is described with reference to FIG. **3**, which is a drawing illustrating a method for providing a menu of an external device of a particular type according to an exemplary embodiment of the present invention.

[0062] As shown in FIG. **2**, there are diverse external device connected to the TV **210**. For convenience of description, it is assumed that the TV **210** is connected to only the Anyview**2** device **230**. The process of transmitting and receiving messages between the TV **210** and the Anyview**2** device **230** is described below.

[0063] Returning to FIG. **3**, if the TV **210** is connected to the Anyview**2** device **230** in an HDMI CEC standard, HDMI hot plug detection (HPD) between the TV **210** and the Anyview**2** device **230** is performed (S**310**).

[0064] By the HDMI HPD, the Anyview**2** device **230** obtains a physical address (S**315**). The physical address depends upon which of the input port of an image apparatus is connected to the Anyview**2** device **230**. For example, if the Anyview**2** device **230** is connected to a first input port of the TV **210** which is a sink, the Anyview**2** device **230** obtains a physical address of (1, 0, 0, 0). If the Anyview**2** device **230** is disconnected from the TV **210** and connected to another input port (for example, a second input port of the TV **210** or an input port of another image apparatus), the physical address changes.

[0065] The TV control unit **216** generates a physical address request message "Give Physical Address" requesting the physical address of the Anyview**2** device **230**, and transmits the message to the Anyview**2** device **230** (S**320**). The Anyview**2** control unit **236** generates a physical address response message "Report Physical Address" containing the obtained physical address, and transmits the message to the TV **210** (S**325**).

[0066] The Anyview**2** device **230** connected to the TV **210** pings other image apparatuses connected to the TV **310** to receive a logical address of the Anyview**2** device **230** (S**330**).

[0067] Through pinging other image apparatuses, the Anyview**2** device **230** is allocated a logical address (S**335**). The logical address is predefined according to the CEC standard. The logical address can change whenever ping is performed.

However, if an external device is allocated with a particular logical address, the same logical address cannot be allocated other external devices as the particular logical address, so each external device has a unique logical address.

[0068] The TV control unit **216** generates a logical address request message "Give Logical Address" requesting a logical address of the Anyview**2** device **230**, and transmits the message to the Anyview**2** device **230** (S**340**). The Anyview**2** control unit **236** generates a logical address response message "Report Logical Address" containing the allocated logical address, and transmits the message to the TV **210** (S**345**). Consequently, data communication between the TV **210** and the Anyview**2** device **230** is enabled.

[0069] The TV control unit **216** determines whether or not a user command to display external DMA devices is input (S**350**). In greater detail, if the user wishes to enjoy services provided by external DMA devices connected to the image providing system, the user selects a DMA key mounted on the remote control **218** and thus the TV control unit **216** determines that a user command to display external DMA devices is input.

[0070] If the user command to display external DMA devices is input (S**350**-Y), the TV control unit **216** generates a type information request message "Ask if device is of DMA Type" inquiring whether or not an external device is a DMA device, and transmits the generated message to the external devices connected to the TV **210** (S**355**). The Anyview**2** control unit **236** receives the type information request message through the Anyview**2** HDMI interface **234**.

[0071] Subsequently, the Anyview**2** control unit **236** identifies whether or not the Anyview**2** device **230** is a DMA device. Since whether or not the Anyview**2** device **230** is a DMA device is preset at the time of manufacture, the Anyview**2** control unit **236** confirms that the Anyview**2** device **230** is a DMA device based on type information stored in a memory of the Anyview**2** device **230**. As described above, the Anyview**2** device **230** is a DMA device, so the Anyview**2** control unit **236** generates a response message "Report DMA Type[1]" indicating that the Anyview**2** device **230** is a DMA device and transmits the message to the TV **210** (S**360**).

[0072] As it is assumed above that only the Anyview**2** device **230** is connected to the TV **210**, the TV control unit **216** determines that there is only one DMA device.

[0073] Next, the TV control unit **216** generates a menu request message "Give Menu Information" and transmits the message to the Anyview**2** device **230** (S**365**). The Anyview**2** control unit **236** generates a response message "Report Menu Information" of the Anyview**2** device **230** and transmits the message to the TV **210** (S**370**).

[0074] The TV control unit **216** generates and displays a menu of the Anyview**2** device **230** (S**375**).

[0075] The user may input a command to execute a particular service from the menu, and the TV **210** generates and transmits a message requesting service execution "Execute Service" to the Anyview**2** device **230**. As a result, the external DMA device can provide the TV **210** with the particular service.

[0076] In FIG. **3**, an example was shown with only the Anyview**2** connected to the TV **210**, but a plurality of external DMA non-DMA devices may be connected to the TV **210**.

[0077] In S**350**, if a user command to display external DMA devices is input, the TV control unit **216** may generate and display on the display a list of external DMA devices.

[0078] In addition, before receiving the user command to display external DMA devices, the TV control unit **216** may generate and transmit type information request messages to external devices, and receive response messages from the external devices, so that the TV control unit **216** can categorize the external devices in advance. Accordingly, if the user inputs a command to display external DMA devices, the TV control unit **216** can display external DMA devices more rapidly.

[0079] Furthermore, in this exemplary embodiment, the image providing system includes the TV and external devices. It is well-known that the TV and external devices are image apparatuses.

[0080] FIGS. **4**A to **4**E show the structure of messages regarding the types of image apparatus being used according to an exemplary embodiment of the present invention.

[0081] FIG. **4**A illustrates the structure of a type information request message according to an exemplary embodiment of the present invention. In FIG. **4**A, the type information request message includes a start block indicating the start of the message, a header block containing logical addresses of a source and destination, and a data block containing data inquiring about what types of image apparatus are connected. The data block is divided into an opcode area and an operand area. The data inquiring what types of image apparatus are connected are preferably contained in the opcode area.

[0082] FIGS. **4**B and **4**C illustrate the structures of a type information response message according to an exemplary embodiment of the present invention. The type information response message also includes a start block, a header block, and a data block, as in the type information request message. However, the data block contains not only data responding to the type information request message, but also information regarding what type of device an external device is. As shown in FIG. **4**B, the data block of the type information response message contains "DMA Type (1)" indicating the external device is a DMA device, and as shown in FIG. **4**C, the data block of the type information response message contains "DMA Type (0)" indicating the external device is not a DMA device.

[0083] FIGS. **4**D and **4**E illustrate the structures of a type information request message and type information response message according to another exemplary embodiment of the present invention. As shown in FIG. **4**D, the data block of the type information request message may contain "Ask What Type", which is data inquiring what type of device an external device is. As shown in FIG. **4**E, the data block of the type information response message may contain "DMA Type" which is data indicating the device is a DMA device.

[0084] FIG. **5** shows a remote control of a TV according to an exemplary embodiment of the present invention. As shown in FIG. **5**, the remote control **218** has a separate DMA key **510**. Accordingly, the user can manipulate external DMA devices in the image providing system by selecting the DMA key **510** without searching for the external DMA devices from among external CEC devices.

[0085] FIGS. **6**A to **6**C show menus to be displayed on a display when the DMA key is selected according to an exemplary embodiment of the present invention. In FIG. **6**A, when the user selects the DMA key, if there is no DMA device connected to the TV **210**, the TV **210** displays "There are no DMA devices" on the display. If there is a single DMA device connected to the TV **210**, the TV **210** displays on the display the highest menu provided by the DMA device, together with

the name of the device of the DMA, as shown in FIG. **6**B. If there is a plurality of DMA devices connected to the TV **210**, the TV **210** displays a list of names of the DMA devices on the display, as shown in FIG. **6**C. The menu shown by the TV **210** need not be top menu but other sub-menus of the external devices.

[0086] In this exemplary embodiment, the user selects the DMA key on the remote control in order to manipulate DMA devices, but the present invention is not limited thereto. The user may also manipulate DMA devices using a DMA item from among menu items displayed on the display.

[0087] In this exemplary embodiment, particular type of devices described are DMA devices, but the particular type is not limited thereto. Image apparatuses can be classified as playback devices, recording devices, moving image devices, still image devices, audio devices and etc.

[0088] In FIG. **2**, an image providing system which the present invention is applied to includes the TV, DVDR, Anyview**2**, BDP, and IPTV, but the technical idea of the present invention can also be applied to an image providing system implemented using image apparatuses other than those apparatuses.

[0089] Moreover, in this exemplary embodiment, the image apparatuses implementing the image providing system are connected to each other in a HDMI CEC standard, but this is merely an example for convenience of description. Diverse methods which can perform transmission and reception of image signals and messages between image apparatuses other than a HDMI CEC standard can be applied to the present invention.

[0090] As can be appreciated from the above description, information regarding the type of external devices connected is obtained, and a list of external devices or a menu of external devices is provided to the user according to the obtained information so that the user can use the image apparatus more conveniently.

[0091] The foregoing exemplary embodiments are merely exemplary and are not to be construed as limiting the present invention. The present teaching can be readily applied to other types of apparatuses. Also, the description of the exemplary embodiments of the present invention is intended to be illustrative, and not to limit the scope of the claims, and many alternatives, modifications, and variations will be apparent to those skilled in the art.

What is claimed is:

1. A method for providing information on the type of image apparatus connected, the method comprising:

transmitting to external devices a request message inquiring whether or not the external device which is connected using a high definition multimedia interface consumer electronics control (HDMI CEC) standard is a device of a particular type; and

receiving from the external devices a response message answering whether or not the external device is a device of the particular type, in response to the request message.

2. The method of claim **1**, wherein the request message comprises data inquiring whether or not the external device is a device of the particular type, and the response message comprises at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

3. The method of claim **1**, wherein the device of the particular type is a digital media adapter (DMA) device.

4. The method of claim **1**, further comprising:

determining whether or not a user command to display external devices of the particular type is input; and

displaying external devices of the particular type from among external devices connected according to the HDMI CEC standard based on the received response message if a user command to display external devices of the particular type is input.

5. The method of claim **4**, further comprising determining a number of external devices of the particular type.

6. The method of claim **5**, further comprising displaying a menu of the external device of the particular type if the number of external devices of the particular type is one.

7. The method of claim **5**, further comprising displaying a list of the external devices of the particular type if the number of external devices of the particular type is more than one.

8. The method of claim **5**, further comprising displaying information indicating there are no external devices of the particular type if the number of external devices of the particular type is zero.

9. A method for an image apparatus providing information on the type of the image apparatus to an external device which is connected according to the HDMI CEC standard, the method comprising:

receiving from the external device a request message inquiring whether or not the image apparatus is a device of a particular type; and

transmitting to the external devices a response message answering whether or not the image apparatus is a device of the particular type, in response to the request message.

10. The method of claim **9**, wherein the request message comprises data inquiring whether or not the external device is a device of the particular type, and the response message comprises at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

11. An image apparatus, comprising:

an interface which performs data communication with external devices which are connected according to the HDMI CEC standard; and

a control unit which generates a request message inquiring whether or not the external device is a device of a particular type, transmits the request message to the external devices through the interface, and receives from the external devices a response message answering whether or not the external device is a device of the particular type, in response to the request message.

12. The image apparatus of claim **11**, wherein the request message comprises data inquiring whether or not the external device is a device of the particular type, and the response message comprises at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

13. The image apparatus of claim **11**, wherein the device of the particular type is a digital media adapter (DMA) device.

14. The image apparatus of claim **11**, further comprising a display,

wherein the control unit displays external devices of the particular type on the display based on the received response message if a user command to display the external devices of the particular type is input.

15. The image apparatus of claim **14**, wherein the control unit determines a number of external devices of the particular type.

16. The image apparatus of claim **15**, wherein the control unit generates and displays a menu of the external device of the particular type on the display if the number of external devices of the particular type is one.

17. The image apparatus of claim **15**, wherein the control unit generates and displays a list of the external devices of the particular type on the display if the number of external devices of the particular type is more than one.

18. An image apparatus, comprising:

an interface which performs data communication with an external device which is connected according to the HDMI CEC standard; and

a control unit which receives a request message from the external device inquiring whether or not the image apparatus is a device of a particular type, and generates and transmits to the external devices a response message answering whether or not the image apparatus is a device of the particular type, in response to the request message.

19. The image apparatus of claim **18**, wherein the request message comprises data inquiring whether or not the external device is a device of the particular type, and the response message comprises at least one of data answering the request message and data indicating whether or not the external device is a device of the particular type.

20. A method in an image apparatus capable of being connected to an external device, the method comprising:

transmitting a request command to the external device for requesting a type of the external device;

receiving an information from the external device indicating the type of the external device; and

displaying an indication identifying the external device corresponding to a particular type.

21. The method of claim **20**, wherein the image apparatus is a television device.

22. The method of claim **20**, wherein the transmitting step and the receiving step is performed in accordance with the HDMI CEC standard.

23. The method of claim **20**, wherein the displaying step displays a list of at least one of the external devices corresponding to the particular type.

24. The method of claim **23**, wherein the particular type is a DMA device according to the HDMI CEC standard.

25. The method of claim **20**, wherein the displaying step displays menu items which can be used to control the external device.

26. The method of claim **25**, wherein the menu items corresponds to a top menu of the external device.

27. The method of claim **25**, wherein the external device is a DMA device in according to the HDMI CEC device.

28. The method of claim **27**, wherein the external device is a DVD player.

29. The method of claim **27**, wherein the external device is an IPTV receiver.

30. The method of claim **20**, wherein the type of the external device is input by the user.

31. The method of claim **30**, wherein the input by the user is performed by pressing a button on a remote controller.

32. The method of claim **20**, further comprising the step of:

transmitting a request to the external device to send menu information; and

receiving the menu information from the external device;

wherein the menu information is displayed as the indication identifying the external device corresponding to the type.

33. The method of claim **32**, wherein the menu information is used to display a screen to access contents disposed on the external device.

34. The method of claim **33**, wherein the menu information comprises of menu items to control the external device.

35. The method of claim **34**, wherein the control of the external device comprises of start and stop play command of a content in the external device.

36. The method of claim **34**, wherein the content comprises of a video content.

37. The method of claim **20**, further comprising the step of:

receiving a video content from the external device.

38. The method of claim **37**, wherein the image apparatus is a digital television device.

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